

REMARKS

Claims 1-14 are now in this application. Claim 5 is allowed. Claims 1-4 are rejected. Claims 1-4 are amended herein to clarify the invention, to broaden language as deemed appropriate and to address matters of form unrelated to substantive patentability issues. New claims 6-14 are added.

Applicants herein traverse and respectfully request reconsideration of the rejection of the claims and objection cited in the above-referenced Office Action.

Claims 1-4 are rejected as obvious over Otsuka et al. (US 5,858,201) in view of Gram et al. (US 4,761,208) under 35 U.S.C. §103(a). The applicants herein respectfully traverse this rejection.

For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

It is respectfully submitted that a *prima facie* case of obviousness has not been established in the rejection of claims 1-4. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest

all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP §706.02(j) "Contents of a 35 U.S.C. §103 Rejection".

Each of the rejected independent claims 1 and 3 recites a method by which electrolyzed water is produced, and which includes alternately changing the polarity of two electrodes at a particular time interval effective for producing ozone. The claims both positively recite that the alternate changing of polarity is "continuously executed," i.e., the potentials of the respective electrodes are repeatedly switched during the course of carrying out the method at a predetermined time interval. As explained in the specification at paragraphs [0018] through [0021] on pages 6 and 7, ozone production is facilitated by operation of a phenomena brought about by the intentional and continued alternation of polarity. It is respectfully submitted that no such teaching is present in either Otsuka et al. or Gram et al..

While Otsuka et al. teaches a controller for reversing polarity across the electrodes, the reference does not teach or suggest the continuous alternation of polarity to effect an increase in ozone production over conventional electrolyzing devices. At column 29, lines 31-43, the Otsuka et al. reference describes the polarity reversing operation, stating that "the polarity of voltage applied across the electrodes of the non-barrier type electrolytic cell 31 is reversed just before the stop of the

electrolysis, the electrolysis is continued for a short time, and the electrolysis is stopped. Thus, the adhesion of scale to the negative electrode plate 50 is suppressed.”

According to this disclosure, polarity is switched only once, and for the sole expressed purpose of suppressing adhesion of scale. In stark contrast, by setting such interval of time T according to the inventions of claims 1 and 3 at which polarity of the electrodes is alternated, ozone production is effectively enhanced. Applicants submit that the phenomena brought about by practice of the methods of claims 1 and 3, and by which the potential of one electrode is raised as oxygen molecules produced at another electrode, previously a higher potential, reach the one electrode, in order to encourage formation of ozone at the one electrode, is not effectively produced by the simple singular reversal of polarity just prior to termination of electrolysis, as taught by Otsuka et al.. Applicants further respectfully submit that the secondary Gram et al. reference fails to provide the teaching lacking in Otsuka et al., as noted above.

Furthermore, the Examiner states at page 4 of the Office Action that “porous electrodes are routinely used in the art to increase the surface area of the electrode to provide an increased area to form oxidants”. However, Applicants note that unlike conventional porous electrodes, in which a flow passage crosses at a right angle to the electrode plate, the present invention provides a flow passage which instead extends co-directionally with the electrode plate.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of claims 1-4 and their allowance are respectfully requested.

Claims 6-13 are added and are submitted as patentable over the cited art of record. Independent claim 8 recites subject matter directed to changing a polarity of two electrodes back and forth at a time interval, which, among other features recited therein, is not believed disclosed in the cited art in the manner as claimed. Dependent claims 6, 7 and 9-14 are patentable based on the subject matter cited therein in addition to the subject matter of claims 1, 3 and 8.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,

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